CITY & COUNTY
OF SAN FRANCISCO

DEPARTMENT OF
PUBLIC WORKS

INDUSTRIAL WASTE PROGRAM

DECEMBER 1974

A N N U A L R E P O R T

SAN FRANCISCO

INDUSTRIAL WASTE PROGRAM

FOR

CALENDAR YEAR - 1974

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TABLE OF CONTENTS

Table of Contents (Cont'd.)

LIST OF PLATES

PREFACE

San Francisco's industrial community is characterized by large numbers of small businesses whose wastewater discharges, on an individual basis, are quite small. However, the aggregate of these individual discharges causes a significant problem to the City's water pollution control plants which must treat the total discharge from the City to a standard imposed by the State of California. Accordingly, the City's Industrial Waste Program is intended to regulate all industrial discharges as required to protect the sewerage system and employees and to meet the State and Federal requirements placed upon the City.

CHAPTER I - INTRODUCTION

This document is the annual progress report of San Francisco's Industrial Waste Program and is intended to provide to the citizens of San Francisco, their elected officials and other concerned persons, pertinent information regarding the activities of the Industrial Waste Program during calendar year 1974. Additionally, this document is intended to fulfill the requirements of the State of California's Regional Water Quality Control Board's (San Francisco Bay Region) Resolution Nos. 74-159, 160, and 161, which require the City and County of San Francisco to provide to the Regional Board an annual progress report on implementation of the Industrial Waste Program.

Information presented herein should be helpful to industrial decision makers in determining immediate and future resource commitments necessary for compliance with San Francisco's Industrial Waste Ordinance, and to the community at large, in understanding the purpose of the program and the problems attendant with its implementation.

PURPOSE AND SCOPE

This report is intended to present an outline of the actions initiated by the Department of Public Works, City and County of San Francisco, during 1974 to implement its Industrial Waste Program. A portion of the report details the funding and revenue collection aspects of the 1974 Program. The goals for the 1975 Program are presented in the final chapter.

1974 Program

The 1974 Program is described in detail in Chapter III. Key emphasis is on presenting the procedures and task-flow associated with the inspection and enforcement activities. The methods imposed for determining which limitations would be pursued under the enforcement program are also included in this chapter. The final segment of this chapter describes the Department's efforts to provide information to the industrial community through conferences and public hearings.

Revenue

Chapter IV contains a breakdown of the funding and fee collection aspects of the Industrial Waste Program. The type of fees collected, frequency of billing, and the criteria for assessment are topics included in this chapter.

A budget comparison between fiscal year '74 and fiscal year '75 is included in this chapter.

1975 Program

The activities which the Industrial Waste Branch plans to pursue in 1975 are presented in Chapter V. Some of the activities planned include implementation of a source control program, continued surveillance and enforcement, development of new legislation, and design of a computer program.

CHAPTER II

BACKGROUND

Widespread concern regarding the environmental consequences of unrestricted industrial waste discharges which ultimately reach the nation's waters has lead to the development of regulations and guidelines at the Federal, State, and local levels.

The Federal Water Pollution Control Act

In October 1972, the Congress of the United States enacted Public Law 92-500, an amendment to the Federal Water Pollution Control Act. This legislation established as a national goal the elimination of all pollutant discharges to the nation's waterways by 1985. Three provisions of this legislation, commonly referred to as the Act, have special bearings on San Francisco's Industrial Waste Program. First, the Act provides for the establishment of Pretreatment Standards by the Administrator of the Environmental Protection Agency (EPA) for wastes discharged by industry into public treatment works. Municipalities are charged with enforcement of these Standards. The second provision is that industry must pay its fair share of the additional maintenance and operation costs of treatment works caused by industrial discharges. The third provision is the requirement that all pollutant discharges, including San Francisco's treatment

plants, will require a National Pollutant Discharge Elimination System (NPDES) permit. These permits require that certain conditions must be met before discharge to the nation's navigable waters is allowed. One of these conditions is that the municipalities must establish a program of point source control of industrial wastes.

The act provides that the administrative arm for enforcement of the Act shall be the Environmental Protection Agency (EPA) which utilizes the NPDES permit as its major tool to achieve these goals.

State and Regional Agencies

Since the passage of the Dickey Act in 1949 and subsequent major legislation such as the Porter-Cologne Act of 1970, the State of California, under administrative jurisdiction of the State Water Resources Control Board and its Regional Water Quality Control Boards, has conducted a comprehensive program of water pollution abatement. EPA has delegated the NPDES permit issuance authority to the State Water Resources Control Board which has designated the Regional Boards as arms of its issuance authority. On December 6, 1974, the San Francisco Bay Area Regional Board issued NPDES permits to each of the three San Francisco Water Pollution Control Plants.

This is the first time in history, pursuant to federal law, that the water pollution control facilities of the City have been put under permit. This permit dictates the permissable composition of the effluent itself and is thus substantially different from past non-permit requirements which were based on the quality of the receiving waters rather than on an independent standard of performance for the effluent.

San Francisco Industrial Waste Ordinance

In early 1971 the Board of Supervisors adopted Article 4.1 as an amendment to the Public Works Code (Section 1, Part II, Chapter X). The broad goals of the Article may be enumerated as follows: (1) Prohibition - The legislation prohibited the discharge of certain materials to the City's sewerage system. (2) Restriction - Numerical limits were established for discharges of certain sewage components such as COD, suspended solids, grease, and toxicity. (3) Assessment - Fee schedules were established to defray the costs of administrating the program and to collect industry's "fair share" of the cost for treatment of industrial waste componants of the City's sewage. In addition, two other goals were incorporated into the Ordinance and reflected in the general program: (1) Comprehensiveness -

In addition to provisions for the identification and classification of dischargers, the program provides for self-monitoring and evaluation, establishes penalties for failure to comply with Ordinance provisions and recognizes the need for public information. (2) Flexibility - The Ordinance delegates to the Director of Public Works, emergency powers pertaining to limitations of discharges. A copy of the Ordinance is shown in Appendix A, pages A-1 to A-16.

CHAPTER III - 1974 PROGRAM

The Department of Public Works, during 1974, operated a program which evolved from program operations of previous years. During 1973, the emphasis in the Industrial Waste Program was the collection of Waste Discharge Reports, analization of the reports, and determination of priorities for inspections of industrial groups. In 1974, the primary emphasis was placed upon inspecting as many industries as possible, bringing to hearings those industries found to be in violation of the Ordinance, and enforcing Director's Orders with time schedules for compliance. An indication of the necessity for public hearings is that Statements of Compliance were submitted by only 27 percent of the industries issued Orders. Consequently, the bulk of the 1974 program resources were allocated to the inspection and enforcement programs. However, a vast number of tasks were undertaken within other areas in the field of wastewater control and pollution abatement.

During 1974, program objectives were pursued to further the broad goals undertaken by the Department of Public Works to insure that industrial discharges to the San Francisco Sewerage System would not result in damage to the receiving water environment. These program objectives

were determined following consideration of the requirements of the Industrial Waste Ordinance, EPA Pretreatment Guidelines, and the cease and desist orders issued by the Regional Water Quality Control Board. Basically, 1974 program goals were to determine the discharge limitations to be imposed upon industrial users, to identify and locate all industrial dischargers, to enforce controls on dischargers, to provide information and communication with the industrial community, and to insure that industry contributes its fair share to water pollution abatement costs.

Activities designed to meet these goals were established as follows:

A. DETERMINE DISCHARGE LIMITATIONS

Industrial Waste Ordinance (No. 15-71)

Before an enforcement program can be implemented, limitations on discharges from industrial users of the sewer system must be determined. As mentioned in Chapter I - Introduction, San Francisco has an enforceable Industrial Waste Ordinance (Ordinance No. 15-71) which was established in January 1971. Within the Ordinance, there are three basic categories of restrictions placed upon dischargers, namely, abatement of all prohibited wastes, limitations on

the concentrations of certain wastes, and charges for discharges of certain pollutants (for which there are also maximum limitations).

The Department of Public Works decided that limitations of discharges with pH levels which were outside of the boundries established by the Ordinance* was the highest program enforcement priority. Discharges with pH levels of 5.5 and below (acidic) and discharges with pH levels of 8.5 and above (basic) are undesirable because of the pH sensitive processes of coagulation for solids removal and pre-chlorination for disinfection used in the San Francisco treatment plants. Additionally, EPA has designated wastewater having a pH of less than 5.0 as a prohibited waste if discharged into a publicly owned treatment works (Appendix A, page A-17). The proposed NPDES permit requirements limited pH discharges from each of San Francisco's three treatment plants. Consideration was also given to the practical aspect of enforcing pH, which requires a relatively simple pretreatment process. For these reasons pH enforcement was targeted as first priority for program year 1974.

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* pH is a measure of the acidity or alkalinity of a solution. A neutral solution is numerically equal to 7.0. The San Francisco Industrial Waste Ordinance permits discharge of wastes with pH levels ranging from 5.5 to 8.5 only.

In addition to controls placed on pH, the Department determined that limitations in the Ordinance for sulfides, excessive grease and excessive COD would also be pursued under the enforcement program because of their direct bearing on the effluent quality at the treatment plants.

The present Ordinance also authorizes the Director to adopt rules and regulations, after public hearing, which supplement the intent of the Ordinance. This will allow the Director to enforce maximum concentrations of heavy metals or other critical constituents that require source control to satisfy the conditions of the City's NPDES Permits.

EPA Pretreatment Guidelines

The Federal Water Pollution Control Act of 1972 empowered the Administrator of EPA to establish (on a nationwide basis) limitations for discharges by industries to publicly owned treatment facilities, of industrial wastes which could adversely affect the equipment or performance of the publicly owned system (Appendix A, pages A-17, A-18). As of December 31, 1974, the EPA had not adopted any Pretreatment Guidelines for existing sources discharging into the San Francisco sewerage system. Consequently, EPA Pretreatment Guidelines have not played an important role in the

Department of Public Works' enforcement activities to date. A file of EPA Guidelines and Standards is kept up-to-date by Department of Public Works personnel, and in the event Pretreatment Guidelines are promulgated for sources existing in San Francisco, the Department stands ready to take whatever actions are necessary to diseminate information and enforce provisions of these regulations.

NPDES Permit Requirements

On December 6, 1974, San Francisco received NPDES Permits for each of its three water pollution control plants. Effluent limitations for the plants call for stringent effluent requirements on biochemical oxygen demand, suspended matter, grease/oil, pH, cyanide, phenolic compounds, total identifiable chlorinated hydrocarbons and nine heavy metals. The metals include arsenic, cadmium, total chromium, copper, lead, mercury, nickel, silver and zinc. Biochemical oxygen demand, suspended matter and grease/oil of the influent must be reduced by eight-five (85%) percent prior to discharge, a treatment level which is essentially secondary treatment.

The City intends to meet these stringent effluent requirements by utilization of secondary treatment processes, implementation of a source control program, and application

of EPA Pretreatment Standards where applicable to the San Francisco industrial community. These latter two efforts will involve industrial waste dischargers. By issuance of NPDES permits, Federal law requires that the City develop a program for source control and application of EPA Pretreatment Standards, commencing March 1, 1975. The City has until March 1, 1976 to implement the program. Compliance with this program includes the issuance of time schedules for compliance to all industries whose discharge must be controlled in order for the City to meet the effluent limitation in its Permits by July 1, 1977.

In response to these NPDES Permit requirements, the City began influent profiling on all three water pollution control plants in December, 1974. This influent profiling (conducted during dry weather conditions only) consists of monitoring and analyzing the influent waste streams to each of the three plants on an hourly basis, seven days per week, once per month, for grease/oil, suspended matter, biochemical oxygen demand, phenolic compounds, and all heavy metals (except arsenic) in the NPDES Permits. Also during December, pH monitoring was begun on an hourly basis, twenty-four hours per day, for every dry weather day.

B. IDENTIFY AND LOCATE DISCHARGERS

Collection of Waste Discharge Reports

By June 1973, the Department had collected 161 Waste Discharge Reports from industries determined to be critical to the City's wastewater flow (tabulation of data from these Waste Discharge Reports is included in the Annual Report for 1973). Analysis of these reports provided the basis for our inspection priority program. Late in 1974, a new Waste Discharge Report and Sampling Proposal Report were developed (see Appendix A, pages A-19 to A-40). A program was implemented using the two reports, whereby major contributing industries were required to complete the Sampling Proposal Report and return it to the Department for approval prior to sampling their discharge for completion of the Waste Discharge Report. This procedure eliminated errors caused by industries utilizing improper sampling locations and procedures.

To facilitate the billing of industrial waste surcharge fees to dischargers with small water consumptions, the Report of Loading Rates For Fee Constituents was developed (Appendix A, pages A-41, A-42). This report provided an inexpensive method of assessing loading rates for compatible

pollutants without requiring analysis of wastestreams for constituents not likely to be found.

Distribution of Industrial Waste Questionnaire

One of the most meaningful projects undertaken during the year was the creation of the Industrial Waste Questionnaire (Appendix A, pages A-43 to A-49). The Department of Public Works, in cooperation with the Department of Public Health, developed and circulated a questionnaire which satisfied certain data requirements of both agencies. The questionnaire was completed by November, and over 750 were mailed out by December 31, 1974. It is anticipated that 6,000 questionnaires will ultimately be sent out. During December 1974, over one hundred questionnaires were returned. Inspections which followed analysis of returned questionnaires produced excellent results for three basic reasons: 1) The questionnaire informed the business management of our purposes. 2) We had opportunity, through analysis of the Questionnaire, to study the wastes handled and processes used at the business. 3) Comparison of information provided on the questionnaire with observations on the premises by our staff both reduced inspection time and expanded the scope of inspection.

An equally useful objective for output from distribution

and analysis of questionnaires is the elimination of time-consuming inspections of businesses which have no waste discharge, or whose discharge is almost pollutant-free.

Inspection of Dischargers

The inspection of dischargers was the major activity of the Industrial Waste Program during 1974. Table III-1, which follows, tabulates the 1974 inspection effort.

Table III - 1

Industrial Category	Approximate Number of Industries	Approximate Number of Inspections
Printing	650	780
Baking	180	220
Industrial Supply	280	340
Concrete Supply	85	100
Adhesives Manufacturing	85	100
Truck and Auto Washing	400	480
Laundering	515	620
	2,195	2,640

Other inspections conducted during 1974 included:

	Approximate Number of Inspections
Inspections for compliance with Director's Orders	230
Revenue inspections to update computer program and billing information	1,260
Total inspections conducted during 1974	4,130

Before inspecting any of these industries, inspection procedures were developed. A thorough study was made of the processes and activities common to each industry. Based upon the materials used in production, materials discarded as by-products, clean-up methods, and other factors, an inspection procedure was formulated which insured nothing would be overlooked during routine inspections of the industry.

The priority of inspections during 1974 was based on severity of pH violation. Water consumptions and pH measurements from Waste Discharge Reports were used to compute the quantity of hydrogen ion and hydroxyl ion discharge introduced into the City sewer system by each industrial category. A priority list was then prepared on this basis and inspections were begun in accordance with the list. The Inspection Report utilized is shown in Appendix A, page A-50.

Surveillance, Sampling and Analysis

The Industrial Waste Branch monitored industries suspected of discharge violations. Some of the industries monitored under this surveillance program included food and vegetable oil processors, and the printing industry.

The sampling program was conducted by use of two sigmamotor Automatic Samplers. These samplers are capable of extracting discrete grab samples over a period of twenty-four

hours, or shorter periods, as required. Four portable pH meters and two vacuum pumps were purchased for side-sewer sampling. Each of these new devices was immediately utilized in field sampling activities.

During the Fall of 1974, coordination meetings were conducted with the Bureau of Water Pollution Control of the City regarding the updating of their laboratory facilities which are presently used for analysis of industrial wastes. Improvement of these facilities is anticipated in early 1975.

Determination of Large Water Users

A study was undertaken in the Fall of 1974 to identify the City's largest water users. Department staff worked with personnel from the San Francisco Water Department to produce a computer program listing of all water users in the City with consumptions higher than 333,300 ft^3/mo. (discharges exceeding 120,000 gallons each business day). Industries on this list were then investigated as possible sources of industrial waste.

Computer Program

Work began in 1974 toward the development of a computer program to make available to Department personnel pertinent

information regarding the City's industrial dischargers. The desired output for this program was broken down into three major categories:

a. Time schedules for dischargers under Director's Orders

The purpose of this item would be to keep track of those firms not in compliance with their time schedules for: (1) Monthly Progress Reports, (2) Self-Monitoring Reports, (3) Sampling manhole installation, and (4) Corrective measures. This task is presently being accomplished manually by each inspector who keeps up-to-date a cumbersome file of status sheets (Appendix A, page A-51).

b. Determination of violators

This output would list, for any given constituent critical to the City's source control program, all the industries who discharge this constituent at loadings greater than the established limits. For example, all violators of our upper limit for sulfides could be printed out instantaneously.

c. Computation of mass emission rates for heavy metals

This output would consist of a write-out of the

pounds of heavy metals that a particular discharger was contributing to the sewer system over one-month periods. There are numerous advantages to this output, including its use as a tool for enforcement of EPA Guidelines which are expressed in pounds per unit of production.

Undoubtedly, many more data outputs will be considered before the final program is complete. It is anticipated that a computer specialist will assist in the design of the program during 1975.

Complaints

During 1974, the Department received over twenty complaints concerning discharges in violation of the Ordinance. Each complaint was given thorough consideration, and typical follow-up actions included: a formal record of the complaint, inspection of the location cited, distribution of Industrial Waste Ordinances to suspected violators, documentation of actions taken in response to complaints, response to complainant, and often, reply to a higher agency such as EPA. The citizen complaint was a important source of revealing irregular discharges to San Francisco's sewerage system.

C. ENFORCE CONTROLS ON DISCHARGERS

The enforcement program is complicated because of various restrictions placed upon industrial dischargers by separate agencies of government. As a municipality whose wastes are discharged into navigable waters, the City enforces an Industrial Waste Ordinance. The Regional Water Quality Control Board has set limitations upon the City's effluent discharge which require controls on influent quality to the City's sewerage system from point sources. Additionally, EPA has adopted Pretreatment Standards for new point sources and has proposed Pretreatment Standards for existing point sources.

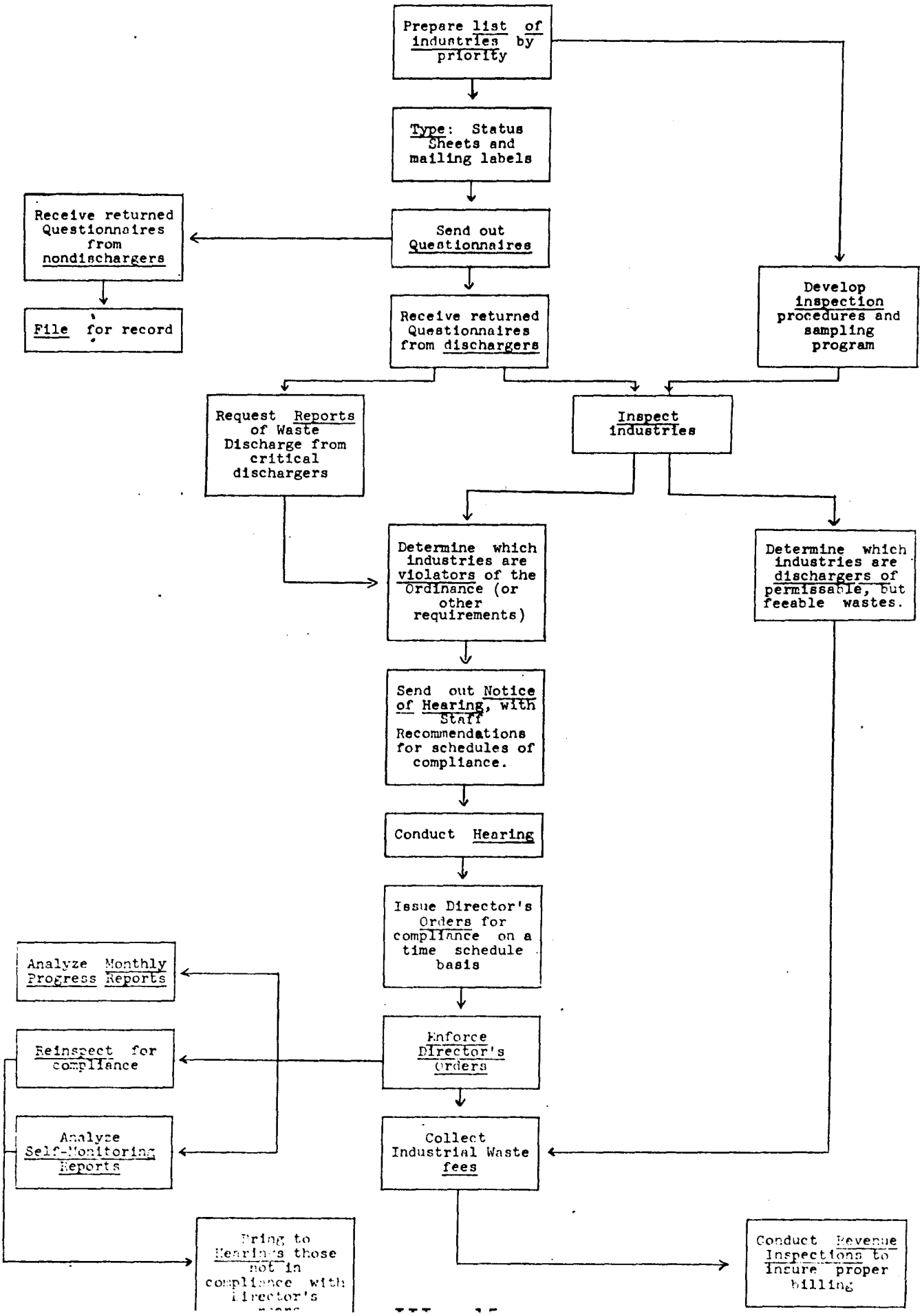
In program year 1974, enforcement activity was confined to enforcing the provisions of the City's Industrial Waste Ordinance because EPA's Pretreatment Standards for existing sources were not yet in effect and the City did not receive its NPDES Permits until late December, 1974. A flow diagram of the Department's Enforcement Program appears on the following page.

As of December, 1974, 239 Director's Orders had been issued establishing time schedules for compliance with provisions of the Ordinance. There were 239 dischargers effected by these orders, involving 260 violations of the

ENFORCEMENT PROGRAM

Flow of Tasks

Plate III-1



Ordinance. Parameters of enforcement included the limitations in the Ordinance for pH, COD, grease and sulfides. A tabular summary by industrial category of the results of the Department's enforcement program as of December 31, 1974 is shown on pages the following pages. As used in the summary, "not in compliance" means the discharger failed to report corrective measures to the Department, and "in compliance" means corrective measures were implemented by the discharger to comply with the indicated violations of the Ordinance.

Hearings: Initial Violation

During 1974, the Department of Public Works conducted 238 public hearings. The agenda for these hearings was primarily concerned with initial violations of the Ordinance. Most of the industries brought to these hearings were found in violation by direct measurement of the violation on the premises of the discharger. Some industries were brought to hearings based on violations determined by Waste Discharge Reports. Director's Orders were issued to 229 industries during 1974 as shown on Plate III-3 which follows.

RESULTS OF ENFORCEMENT PROGRAM
(as of December 31, 1974)
Plate III-2

Industrial Category/Violation	Time Schedules Issued as of Dec. 31, 1974 For the Violation Indicated	Number of Violations Brought In Compliance By Dec. 31, 1974	Number of Violations Not In Compliance By Dec. 31, 1974	Number of Violations With Time Schedules Extending Into 1975	Self-Monitoring Reports Due Prior To Dec. 31, 1974	Self-Monitoring Reports Submitted In 1975	Delinquent Self-Monitoring Reports as of December 1974
Canned Fruits, Vegetables (2033)							
pH	1	-	-	1	-	-	-
COD	1	1	-	-	-	-	-
(# Dischargers)	(1)	(1)		(1)			
Baking (2051)							
pH	3	1	-	2	-	-	-
COD	3	-	-	3	-	-	-
(# Dischargers)	(3)	(1)		(3)			
Candy Products (2065)							
pH	1	1	-	-	2	2	-
(monitor pH)	(1)	(1)					
(# Dischargers)	(2)	(2)					
Vegetable Oils (2076)							
pH	1	-	-	1	-	-	-
(# Dischargers)	(1)			(1)			
Printing (2752)							
pH	142	103	38	1	107	43	64
COD	1	-	-	1	-	-	-
(# Dischargers)	(142)	(103)	(38)	(2)			
Photoengraving (2793)							
pH	6	6	-	-	6	5	1
COD	3	3					
(# Dischargers)	(6)	(6)					
Adhesives Mfg. (2891)							
pH	1	-	-	1	-	-	
COD	1	-	-	1	-	-	-
(# Dischargers)	(1)			(1)			
Leather Tanning (3111)							
pH	2	1	1	-	1	1	-
COD	2	-	-	2	-	-	-
Grease	2	-	-	2	-	-	-
Sulfides	2	-	-	2	-	-	-
(# Dischargers)	(2)	(1)	(1)	(2)			
Concrete Mfg. (3273)							
pH	3	-	-	3	-	-	
(# Dischargers)	(3)			(3)			

Results of Enforcement Program, cont'd.

Industrial Category/Violation	Time Schedules Issued as of Dec. 31, 1974 For the Violation Indicated	Number of Violations Brought In Compliance By Dec. 31, 1974	Number of Violations Not In Compliance By Dec. 31, 1974	Number of Violations With Time Schedules Extending Into 1975	Self-Monitoring Reports Due Prior To Dec. 31, 1974	Self-Monitoring Reports Submitted In 1975	Delinquent Self-Monitoring Reports as of December 1974
Metal Forging (3462)							
pH	1	1	-	-	1	1	-
(# Dischargers)	(1)	(1)					
Metal Coating (3479)							
pH	1	1	-	-	1	1	-
(# Dischargers)	(1)	(1)					
Battery Mfg. (3691)							
pH	2	2	-	-	2	2	-
(# Dischargers)	(2)	(2)					
Maintenance Facilities (4121, 4171, 4172)							
pH	6	-	-	6	-	-	-
COD	2	-	-	2	-	-	-
(# Dischargers)	(6)			(6)			
Industrial Supply, Cleaning (5085, 7699)							
pH	3	-	-	3	-	-	-
COD	1	-	-	1	-	-	-
(# Dischargers)	(3)			(3)			
Laundering (7211, 7213, 7217)							
pH	60	-	-	60	-	-	-
COD	3	-	-	3	-	-	-
(# Dischargers)	(60)			(60)			
Automobile Washing (7542)							
pH	6	2	-	4	-	-	-
(# Dischargers)	(6)	(2)		(4)			
TOTAL:							
pH	239	118	39	82	120	55	65
COD	17	4	-	13	-	-	-
Grease	2	-	-	2	-	-	-
Sulfides	2	-	-	2	-	-	-
(# Dischargers)	(240)	(120)	(39)	(85)			

1974 Hearings
Plate III-3

Date	Category of Industry	Number of Hearings	Number of Director's Orders Issued
Jan 30 1974	Photoengraving	1	
	Candy	1	2
Mar 27 1974	Printing	32	32
Apr 10 1974	Printing	44	42
Apr 24 1974	Printing	33	33
Jul 31 1974	Printing	34	
	Canned Fruits	1	35
Oct 2 1974	Vegetable Oil	1	
	Concrete Supply	1	
	Baking	3	
	Industrial Supply/Cleaning	3	
	Adhesives Manufacturing	1	9
Nov 7 1974	Maintenance Facilities	7	
	Trucking	1	
	Concrete Supply	1	
	Printing	1	
	Leather Tanning	1	
	Laundering	47	55
Dec 4 1974	Leather Tanning	2	
	Trucking	7	
	Concrete Supply	1	
	Vegetable Oil	1	
	Canned Fruits/Vegetables	1	
	Laundering	13	21
		238	229

Time Schedules for Compliance

All Director's Orders issued specified a time schedule for complying with Ordinance requirements. In the case of pH, all Director's Orders uniformly required compliance

within 90 days. For violations of other limitations, time schedules were assigned after consideration was given for the time needed to install the necessary pretreatment equipment. It was discovered that corrective measures could often be implemented at little or no expense to many of the dischargers by simple housekeeping, elimination of unnecessary processes, or change of detergent.

Industry-Wide Enforcement

Enforcement of Ordinance violations always proceeded on an industry-wide basis. Although it was never assumed that all dischargers within an industrial category were in violation, canvassing for violations was always conducted industry-at-a-time. This procedure enabled inspectors to become more knowledgeable during their investigations, and it also provided industry with an opportunity to work together in achieving solutions to their industrial waste problems.

Follow-Up Inspections

An integral part of enforcement is a program of follow-up inspections to insure compliance with Director's Orders. During 1974, inspectors regularly revisited the businesses which had been placed under Director's Orders. Measurement

of pH with a pH meter and inspection of pretreatment equipment which had been installed to comply with Director's Orders were typical procedures for these inspections. Excellent results were reached during follow-up inspections in 1974, and most pH violators under Director's Order were found to be in compliance after ninety days.

Receiving and Analyzing Reports from Dischargers

A chief source of information about corrective measures being taken by industries under Director's Orders were the Monthly Progress Reports submitted to DPW by industrial waste dischargers. These reports were used for stating what actions were being undertaken to comply with the Director's Orders. These reports were due by the 10th of each month until corrective measures were in operation.

After corrective measures were implemented, Self-Monitoring Reports were required on a quarterly basis. These reports included a record of all discharges if the industry discharged on a batch basis (Appendix A, page A-52). If discharge was continuous, a schedule of monitoring time was assigned and a record was kept in accordance with this schedule (Appendix A, page A-53).

Monthly Evaluation of Delinquent Reports

Each month, the Department staff evaluated dischargers who were delinquent in submitting their periodic reports. In November, 1974, the Delinquency Notice (Appendix A, page A-54 and A-55) was designed to improve efficiency and eliminate the time involved in telephoning firms regarding delinquencies of the Monthly Progress Reports and Self-Monitoring Reports required periodically of dischargers under Director's Orders. Prior to November, 1974, dischargers were notified by telephone as required until the delinquent report was submitted. The following is a tabular summary of reports submitted and delinquencies sent in 1974:

	Monthly Progress Reports (for Corrective measures for pH, COD, grease and sulfides)	Self-Monitoring Reports (for pH Monitoring)
Number of reports due in 1974	211	121
Number of reports delinquent in 1974	63	64
Number of Delinquency Notices sent	18*	54
Number of dischargers notified of delinquency by telephone	45	10

*Numerous additional Delinquency Notices were sent during January, 1975

Hearings: Non-Compliance, Extension of Time, Accidental Discharge

The Department conducted no hearings for non-compliance during 1974 because no dischargers refused to comply with the Director's Orders. There were two dischargers who applied for extensions of time to comply with the Director's Orders. Both hearings to consider these applications were conducted in December, 1974. After each discharger proved to the Director that significant prohibitive circumstances precluded him from complying with the existing Orders, extensions were granted. These hearings served as a useful means of establishing facts about the time needed to install pretreatment equipment.

On August 7, 1974, a great quantity of congealed coconut oil obstructed the Southeast Water Pollution Control Plant at the plant's head works. Following a meeting between Department representatives and the City's only coconut oil processor, it was established that this firm was responsible for an accidental discharge on August 7 which caused the obstruction. The firm was brought to a hearing on October 2, 1974. Staff recommendations for this hearing included the adoption of a time schedule for completing construction that would preclude future accidental discharges

as well as an assessment of the additional costs to the City for disposing of the discharged material. These staff recommendations were adopted at the hearing and a Director's Order was issued on October 16, 1974.

The Department's Industrial Waste Branch received another report from the Southeast Plant on October 1, 1974. Animal hides had lodged in the bar racks and grid pumps, creating an obstruction. On the following day, a meeting was held with representatives from a leather tanning company who stated that there had been a breakdown of a pickling drum resulting in the discharge of sheepskins into a nearby sump. The sump contained an overflow that did not connect to the equalization tank and therefore, some of the sheepskins accidentally entered the City's sewer system. The company was unaware that the overflow was still operational as all other such overflows had been previously plugged. Staff recommendations were issued for the tanning company to plug the overflow pipe within seven days. Follow-up inspection immediately thereafter revealed that the overflow pipe had been plugged with concrete and a metal grating had been erected to prevent skins from entering the sump. These corrective measures satisfied the Department's requirements.

Industrial Waste Review Board

The Industrial Waste Review Board did not convene during 1974 because no appeals were initiated.

D. PROVIDE INFORMATION TO THE INDUSTRIAL COMMUNITY

Conferences

Opportunity was given for industries and Department staff to exchange ideas at the Industrial Waste Workshop, hosted by the City of San Francisco on October 17, 1974. The workshop was oriented toward disseminating information to industry and providing a forum wherein they were able to resolve some of their questions. Representatives from the Department also attended meetings of the Regional Water Quality Control Board, the California Water Pollution Control Association, and the Bay Area Sewerage Services Agency. From attending these meetings, the City was enlightened on matters of community interest and informed of technical advances.

Meetings with Industry Representatives; Public Hearings

Routinely, Department staff met with representatives of industries who were users of the sewer system. Such meetings were held prior to hearings to discuss enforcement policies, and after hearings to resolve questions about

pretreatment requirements.

Public hearings served as a key opportunity for communication between industry and the City. Industry was informed of the restrictions placed on the City's discharge by State and Federal Regulatory Agencies and the need for controls in order to meet effluent requirements. Personnel from the Department were briefed concerning the problems related to the elimination of pollutants from the wastewaters of particular industries.

Special consideration was accorded to business owners whose first language was not English. It is now standard policy to have an interpreter at hearings where there is an obvious language barrier.

CHAPTER IV - REVENUE

A. SEWER SERVICE CHARGE - 1974

Billing of the Sewer Service Charge (SSC) progressed smoothly in 1974. SSC Revenues collected by the Water Department and transferred to Department of Public Works totaled over $5,781,000. Plate IV-1 compares 1973 and 1974 SSC Revenues. This indicates a decrease in revenues of $1,600,000 which reflects changes in the SSC rates resulting from an amendment to the Ordinance, however comparative figures indicate that this figure has stabilized and shows a comparative increase in the last 6 months of 1974.

Approximately 10,000 Sewer Service Charge delinquencies were transferred by the Water Department to the User Charge Revenue Section for a dollar amount of $117,300. Of these 1,260 in the amount of $26,700 were paid to the User Charge Revenue Section, 146 were paid to the Water Department totaling $18,600, 215 were abandoned by the Water Department for $3,400, a total of 1,215 were $1.05 or less for $780, 2,700 were under $10,00 were under $10.00 and accumulated by User Charge Revenue Section and 4,464 were transferred to the Tax Collector totaling $326,800. Processing of delinquencies is current.

PLATE IV-1

SEWER CHARGES

Report of the Commercial Division of the San Francisco Department

1973

JANUARY	$1,116,875.91
FEBRUARY	766,430.84
MARCH	960,453.61
APRIL	535,772.14
MAY	599,851.83
JUNE	504,033.81
SUB-TOTAL	$4,483,417.14
JULY	505,954.67
AUGUST	485,235.13
SEPTEMBER	465,464.94
OCTOBER	492,003.66
NOVEMBER	523,625.37
DECEMBER	426,648.70
SUB-TOTAL	$2,898,932.47
TOTAL FOR YEAR	$7,382,350.61

1974

JANUARY	$ 541,005.17
FEBRUARY	399,822.07
MARCH	460,811.39
APRIL	425,417.68
MAY	597,590.06
JUNE	399,639.32
SUB-TOTAL	$2,824,285.69
JULY	$ 576,089.07
AUGUST	462,987.46
SEPTEMBER	483,887.31
OCTOBER	470,795.37
NOVEMBER	475,768.66
DECEMBER	487,357.71
SUB-TOTAL	$2,956,885.58
TOTAL FOR YEAR	$5,781,171.27

Substantial progress was registered in updating the Sewer Service Charge billing records with review and research of over 150,000 accounts and 1,600 adjustment billings processed with notifications sent to the customer. (Appendix A, page A-56) refunds are made, where justified, going back 6 months on any overbill. Charges are billed, also for the prior 6 months, on any underbilling that is discovered.

Sewer Service Charge record keeping was systematized with constructive steps taken to assure that a copy of all delinquencies was in the files. Any inconsistencies in billing or transfer were corrected. "Error" and "Exempt" computer printouts were arranged for an obtained from the Water Department and procedures were begun to substantiate each listing. A field inspection is made of each questionable listing. All previous Sewer Service Charge delinquencies were accumulated and notated as to transfer to the Tax Collector. A new computer viewing terminal in the UCRS office was used extensively to research accounts and has eliminated the need for monthly Water Department billing register printouts. A new computer printout accumulation file was arranged for and obtained which will automatically accumulate all delinquencies under $10.00. In summary, the Sewer Service Charge procedures have been systematized and

automated where possible to promote more efficient service to the public and productive collection operation.

B. INDUSTRIAL WASTE REVENUE PROGRAM

In February 1974, the Industrial Waste staff was reorganized to assign the money-handling functions to a separate group of employees in order to free the technical employees from administrative distractions. This separate group was constituted as the User Charge Revenue Section and also performs the Departments administration of the City's Sewer Service charge including service to the public and coordination of billing, accounting and delinquency processing.

C. ESTABLISH ADMINISTRATIVE PROCEDURE FOR BILLING, ACCOUNTING, DATA STORAGE AND RETRIEVAL AND DELINQUENCY CONTROL

The User Charge Revenue Section continued to update procedures and incorporate automated billing systems in 1974. The 180 day delinquency notice on the 1972-73 Inspection fee was billed on schedule in February 1974 to 361 unpaid accounts and revenues of over $2000 collected. On April 15, 1974 a letter was sent to the remaining 210 unpaid accounts (Appendix A, page A-58) to inform them that the account would be transferred to the Tax Collector,

INDUSTRIAL WASTE PROGRAM REVENUE ACTIVITY STATEMENT

CALENDAR YEAR 1974

Plate IV-2

	1973 #	1973 $	1974 **** #	1974 **** $	Comparative Totals
Inspection Fee					
Billed	4,000	71,600	3,328	113,729	+42,129
Excluded	570	700	149	4,823	+ 4,123
Payments	2,820***	54,500	2,613 ***	92,099	+37,599
Delinquent-120-Day					
Billed	610	16,400	589*	23,900	+ 7,500
Excluded	225	8,300	66	1,662	- 6,638
Payments	135***	3,100	133 ***	3,300	+ 200
Delinquent-180-Day					
Billed	850		361	10,821	
Excluded	280		104	2,291	
Payments	250***	3,200	47 ***	2,018	- 1,182
Transfer to Delinquent Revenues	320	8,600	210	6,512	- 2,088
Waste Discharge Report Filling Fee	80***	36,000	NB**	NB**	
Surcharge	Nov.-Dec Only				
Regular WD Billing		100,000	3,266	449,694	+349,694
Payments	***	41,000		***472,613	+431,613
"600" Multi-Use Accts.	700	5,500	660	35,391	+ 29,891
Payments	-			*** 24,822	+ 24,822
Self-Monitoring Fee					
Billed	NB**	0	NB**	0	
Payments					
TOTALS		***137,800		***594,852	+457,052

*23 Accounts Paid after the cut-off Date (12/19/74 was included in the payments
**NB Not Billed
*** - Revenue Items
*** - Billed for 2 Year Period

Bureau of Delinquent Revenues if not paid in 15 days. Transfer to the Tax Collector was effected on May 15, 1974.

In 1974, approximately 5,500 accounts were listed as potential Industrial Waste Dischargers. Of this number 3,300 were classified as subject to the Industrial Waste Inspection fee. The remaining 2,200 were exempted pending receipt of confirming information on discharger status. It was decided that the Industrial Waste Inspection fee should be billed to reflect those dischargers in business at the beginning of each fiscal year rather than only those in business at the end of the fiscal year. To reflect this decision in 1974, the Industrial Waste Inspection fee was billed simultaneously for FY 1973-74 and FY 1974-75. An explanation card was enclosed with the billing (Appendix A, page A-59). This billing went out in August 1974 and over 2600 accounts paid $92,000. All billings were calculated and billed by data processing at the Water Department with the payments receipted in by the User Charge Revenue Section.

A reminder notice on the Inspection Fee billing for FY 73-74 - FY 74-75 was sent out in October 1974 and the 120 day penalty notice was mailed with penalties to 589 unpaid accounts on December 17, 1974. Revenue of $3,300 was received in 1974 from 133 accounts.

The Industrial Waste surcharge was billed on schedule through out the year both for the regular and the "600" Mixed Occupancy accounts. Revenue increased substantially (see chart on page IV-5) from $137,800 in 1973 to $594,852 in 1974 for a net increase of over $457,000.

A computer accumulation program was instituted to accumulate all Industrial Waste delinquencies under $10.00 and thus eliminate the manual accumulation and record search otherwise required.

D. BUDGETING AND PERSONNEL INDUSTRIAL WASTE PROGRAM

Requirements in both budget and personnel increased in 1974 reflecting additional costs as Industrial Waste activities in the areas of surveillance, hearings, and monitoring of discharges expanded. The following chart compares year to year budget requirements.

Fiscal Year	Approved Budgeted Cost
1968-69	$33,700
1969-70	34,900
1970-71	75,600
1971-72	110,500
1972-73	154,000
1973-74	200,000
1974-75	250,000
1975-76	493,771 (Requested)

PLATE IV - 3

BUDGET COMPARISON

INDUSTRIAL WASTE BRANCH

	1974-1975		1975-1976	
	DPW Request	Approved	DPW Request	Approved
Line Item Budget Staff	2	2	2	
Program Budget - Total	$321,079	$250,000	$437,171	. . .
Water Dept. Services	54,981	35,000	42,500	. . .
Accounting Dept. Services	14,336	7,500	14,100	. . .
30% User Charge Revenue Program	(Included in Program Budget above)		(Included in above amount)	
GRAND TOTAL -	$390,396	$292,500	$493,771	. . .

The substantial rise in requested budget requirements in 1975-76 reflects increases in inspection and surveillance personnel, surveillance equipment, laboratory facilities and consulting and independent testing needs.

The following Plate IV-3 compares budget requests and budgeted amounts approved for FY 74-75 and FY 75-76.

E. BUDGET AND PERSONNEL USER CHARGE REVENUE SECTION

In early 1974 a consolidation move combined the Industrial Waste Revenue Section and the Sewer Service Charge Revenue Section. This move combined the User Charge Sections that process monies collected to meet Federal and State grant recipient qualifications.

Personnel under the unification move remained the same which in effect was an economy since the Industrial Waste Program was expanding and the work load was increased proportionately. The greatest economy of the consolidation was efficiency of operation and better utilization of personnel. The UCRS staff varied from 5 to 8 people.

The comparison in Budget figures in indicated on Plate IV-4 which follows.

PLATE IV-4

BUDGET COMPARISON

USER CHARGE REVENUE SECTION*

	1974-75		1975-76	
	DPW Request	Approved	DPW Request	Approved
User Charge Revenue Section			$104,750	
Listed as part of the I.W. Program Budget (Plate IV-3)	(($ 24,000))	(($ 18,650))	(Included in above item)	
Sewer Service Charge Program	88,220	64,731	(Included in above item)	
Water Department Services	109,962	70,000	85,000	
Bureau of Accounts Services	28,673	15,000	47,000	
User Charge Revenue Program Total	$226,855	$149,731	$236,750	....

*Industrial Waste Revenue Program and Sewer Service Charge Revenue Program combined as User Charge Revenue Program FY 75-76.

CHAPTER V - 1975 PROGRAM

The Industrial Waste Program for 1975 reflects the growth achieved during the earlier years of the Program and establishes new objectives in pursuit of continued development. Goals incorporated within the new scope of the Program include: the implementation of a source control program in accordance with the City's NPDES Permits, inspection of industries after submission of the Industrial Waste Questionnaire (Appendix A, pages A-43 to A-49), revision of the Ordinance, additional developments of computer program, and instigation of citation authority for Industrial Waste inspectors.

The following are activities which the Department of Public Works will pursue in its 1975 Program:

Source Control

The first step taken in response to the City's receipt of its NPDES Permits was to set up a comprehensive monitoring program of plant influent profiling. This was achieved in December 1974 (Chapter III, NPDES Permit Requirements). In 1975, the influent profiling will be expanded to include cyanide, arsenic, and total identifiable chlorinated hydrocarbons. Ultimately, all parameters being profiled will be

other pollutants which are vital to the Source Control Program will be first in priority.

One means for locating dischargers who might fall under this category is the Industrial Waste Questionnaire. Inspections following analysis of questionnaires will continue throughout 1975. Another method of determining dischargers of critical constituents will be requesting completion of Waste Discharge Reports from industries suspected of discharging these constituents. Planned and random inspection will also continue to be viable means for locating dischargers.

A continuance of the successful enforcement program of 1974 is expected in 1975. The Department will proceed according to the flow of tasks diagramed on page III-15 and the issuance of Director's Orders will remain as a key enforcement process.

A new enforcement capability will be the acquisition of citation authority for Industrial Waste inspectors. Two inspectors are scheduled to achieve Peace Officer status in February 1975, which would allow for enforcement of the Ordinance through arrest or citation.

with the amount entering each of the treatment plants. This analysis will be integral to the Source Control Program arising out of the NPDES Permits.

Conferences

Meetings and conferences provide opportunity for both the acquisition and dissemination of information. The Department plans to continue its policy of pursuing such an exchange of information with the industrial community by involvement in conferences throughout 1975. Of particular interest to the Department are conferences with:

a. Regional, State, and Federal Agencies.

b. Chamber of Commerce and Trade Associations.

c. Industrial Dischargers.

Meetings with representatives from each of these three categories will be planned and conducted on a regular basis. It is the Department's opinion that keeping channels of communication open is essential to the development of positive public attitudes toward the Industrial Waste Program.

Appendices A, B and C

(Separately Bound)

CHAPTER V - 1975 PROGRAM

The Industrial Waste Program for 1975 reflects the growth achieved during the earlier years of the Program and establishes new objectives in pursuit of continued development. Goals incorporated within the new scope of the Program include: the implementation of a source control program in accordance with the City's NPDES Permits, inspection of industries after submission of the Industrial Waste Questionnaire (Appendix A, pages A-43 to A-49), revision of the Ordinance, additional developments of computer program, and instigation of citation authority for Industrial Waste inspectors.

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sampled for a period of four months.

The Department has on order an in-stream continuous pH monitoring system powered from an external battery supply. The system will be used for measuring the pH level of sewage found in collection sewers at different parts of the City. Such usage will enable DPW to locate upstream sources of high and low pH discharges. Hourly monitoring of the pH in the treatment plants influents will be continued on a twenty-four hours basis until the new system is in operation.

The Department anticipates expansion of the existing laboratory facilities at the Southeast Water Pollution Control Plant (Bureau of Water Pollution Control) during 1975, which will include a new industrial waste laboratory facility. Approval of the design for the facility is anticipated in mid-1975. Also during 1975, the Department will seek funds for the purchase of an Atomic Absorption Spectrophotometric system to include more sensitive sampling techniques in the analysis of heavy metals.

At this time, it is known that chromium, zinc and mercury are three sewage constituents considered most critical to the City's effort to meet effluent requirements of the NPDES Permits. The maximum effluent limitations for these constituents, as provided for in the Permits, are being

compared with the results of the plant influent monitoring studies which are now being conducted. Based upon the design removal capacities of the plants, the maximum allowable influent concentrations will be determined. Comparison of these maximum allowable influent concentrations with those influent concentrations presently monitored at the plants will establish the degree of control needed at point sources to satisfy Permit requirements on the City's discharges to the navigable waters.

Much of the work in determining the discharge limitations for chromium, zinc and mercury was well underway in 1974 (Chapter III, NPDES Permit Requirements). Enforcement of the discharge limitations for these metals will commence in 1975 after determination of the maximum concentrations allowable at point sources of industrial discharges to the City's wastewater collection system.

Inspection and Enforcement

Inspections of industries will be continued under a new priority in 1975. The previous priority of pH will continue to be enforced because wide fluctuations in pH cannot be tolerated by the treatment methods which will be employed at our water pollution control plants. However, during 1975, inspection of those industries discharging heavy metals or

other pollutants which are vital to the Source Control Program will be first in priority.

One means for locating dischargers who might fall under this category is the Industrial Waste Questionnaire. Inspections following analysis of questionnaires will continue throughout 1975. Another method of determining dischargers of critical constituents will be requesting completion of Waste Discharge Reports from industries suspected of discharging these constituents. Planned and random inspection will also continue to be viable means for locating dischargers.

A continuance of the successful enforcement program of 1974 is expected in 1975. The Department will proceed according to the flow of tasks diagramed on page III-15 and the issuance of Director's Orders will remain as a key enforcement process.

A new enforcement capability will be the acquisition of citation authority for Industrial Waste inspectors. Two inspectors are scheduled to achieve Peace Officer status in February 1975, which would allow for enforcement of the Ordinance through arrest or citation.

Legislation

Work began on revising the existing Industrial Waste Ordinance in the Fall of 1974. The principal objective of the Ordinance revision is to incorporate a permit system which will permit the City to enforce the Ordinance, EPA, and the NPDES Permit requirements more efficiently. As stated in Chapter III, the present Ordinance authorizes the Director to enforce a source control program for heavy metals or other critical constituents where such enforcement is required by NPDES Permit. Additionally, the revision of the existing Ordinance will take advantage of opportunities to eliminate existing ambiguities of language in the Ordinance.

In revising the Ordinance, consideration will be given to Bay Area regional consistency whenever practical. Other Ordinances such as the CWPCA Industrial Waste Subcommittee Model Ordinance and those enforced by large municipalities with similar requirements are being studied as additional input for the Ordinance revision. The revised Ordinance, which should be adopted by the Board of Supervisors in 1975, will include a permit system and a revised fee schedule to reflect changes in operating and maintenance costs.

Computer Program

The desired output for an Industrial Waste computer program to be designed in 1975 is described in detail in Chapter III.

In summation, the program would perform these functions: list time schedules for dischargers under Orders, list all violators of critical constituents, and compute mass emission rates for heavy metals. To determine the input needed to achieve the desired output, the Department's Industrial Waste Branch staff will work closely with a computer specialist who is knowledgeable in the area of computerized data storage systems. It is expected that utilization of a computer program of this nature will serve these purposes:

a. Assist in monitoring compliance time schedules by listing dates when corrective measures are due for each industrial discharger.
b. Expand inspectors' ability to monitor industries by eliminating much of the routine paper work.
c. Allow the Department to determine the quantity of heavy metals discharged by all industries so it can be compared

with the amount entering each of the treatment plants. This analysis will be integral to the Source Control Program arising out of the NPDES Permits.

Conferences

Meetings and conferences provide opportunity for both the acquisition and dissemination of information. The Department plans to continue its policy of pursuing such an exchange of information with the industrial community by involvement in conferences throughout 1975. Of particular interest to the Department are conferences with:

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